

## REMARKS

This application has been carefully reviewed in light of the Office Action dated February 17, 2009. Claims 1 to 39, 44, 45 and 53 to 60 are in the application, of which Claims 1 and 53 to 60 are independent. Reconsideration and further examination are respectfully requested.

### The Rejection Under 35 U.S.C. § 101

Claim 56 has again been rejected under 35 U.S.C. § 101, as allegedly being directed to non-statutory subject matter. Claim 56 is written in “means-plus-function” language, pursuant to 35 U.S.C. § 112, sixth paragraph. According to the rejection, the various “means” set out in the claim can be implemented via software, codes, programs and/or algorithms, such that in the USPTO’s view, the claim as a whole fails to fall within a statutory category and is nothing more than software *per se*.

The rejection continues to be traversed. Contrary to the assumption at page 2 of the Office Action, the Applicant is not relying on “past policies” of the USPTO. Rather, the Applicant is relying on current statutory language of 35 U.S.C. § 112, sixth paragraph, in support of his position that Claim 56 complies with 35 U.S.C. § 101.

In more detail, Claim 56 is directed to an apparatus, and is written in means-plus-function language. Accordingly, pursuant to 35 U.S.C. § 112, sixth paragraph, Claim 56 is therefore construed to cover the corresponding “structure, material, or acts described in the specification and equivalents thereof”. It is clear that the statutory language of §

112, in specifying “structure, material or acts”, implicates only statutory subject matter under § 101. It is at odds with the statutory language, therefore, for the Office Action to conclude that this claim is nothing more than software *per se*, since it is not seen how such an interpretation corresponds to the statutory mandate of “structure, material, or acts”.

Page 4 of the Office Action states that when interpreted in view of the specification, the claimed means “include material or acts, which are, in fact, in the form of software elements.” This statement misses the point. The “structure, material or acts” of § 112, sixth paragraph, are all statutory under § 101. It is simply impossible to concoct a non-statutory “structure” or a non-statutory “material” or a non-statutory “act”. To the extent that the USPTO believes that the claimed means are software *per se*, then it is either mistaken as to the proper scope of § 112, sixth paragraph, or it must concede that software *per se* is statutory. Either way, the rejection under § 101 must be withdrawn.

Moreover, the Federal Circuit has weighed in on the proper interpretation of means-plus-function language, in the context of software-implemented inventions. In *WMS Gaming v. International GameTech*, 51 USPQ2d 1385 (Fed. Cir. 1999), the District Court had improperly held that a means-plus-function claim reads on “any table, formula, or algorithm”. The Federal Circuit reversed, stating that such a construction was impermissibly broad. According to the Federal Circuit, the District Court’s construction was not defined, as it should have been, by corresponding structure, material or acts described in the specification, as required by 35 U.S.C. § 112, sixth paragraph:

“In a means-plus-function claim in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but

rather the special purpose computer programmed to perform the disclosed algorithm.” See *Alappat*, [citation omitted]”. *WMS Gaming*, 51 USPQ2d at 1391.

It should be beyond argument that a “special purpose computer programmed to perform the disclosed algorithm”, per *WMS Gaming*, is statutory.

A recent decision by the Board of Patent Appeals and Interferences is also illustrative, and believed to be precisely on point to the current situation. In *Ex parte Nawathe, et al.* (copy attached), the USPTO Examiner had rejected a claim under § 101 for non-statutory subject matter, and took the position that an apparatus claim written in means-plus-function format was directed to an abstract idea. In particular, the rejected claim recited:

“25. An apparatus comprising:  
means for creating a graph based data structure representing multiple standard XML tree structures;  
means for transforming said graph based data structure to a fixed set of tables; and  
means for using said fixed set of tables.”

The Board considered the effect of the Federal Circuit’s recent decision in *In re Bilksi*. Nevertheless, the Board reversed, and clearly articulated a reasoning that applies to the rejected claims herein, as to why such claims recite statutory subject matter:

“Appellants argue that the recited apparatus refers to the general purpose computer depicted in Figure 2. (App. Br. 33.) Further, Appellants submit that the different means recited in the claim correspond to the different modules in the computer for performing the recited functions. (Id. at 12.) **We find that since the claim recites a physical apparatus with physical modules for transforming a data structure into a fixed set of tables, it is not directed to an abstract idea.** Therefore, Appellants have shown that the Examiner erred in finding that claim 25 is

directed to an abstract idea. Thus, we will not sustain this rejection.”  
*ExParte Nawathe et al.*, Appeal No. 2007-3360, February 9, 2009  
(emphasis added).

Much like the rejected apparatus claim in *Ex Parte Nawathe*, rejected Claim 56 is directed to an apparatus, such as, for example, the apparatus 15 depicted in Figure 2 of the subject application. As described in the specification, the Figure 2 apparatus includes memory 28 and a CPU processor 21, so as to enable execution of the flow sequence depicted in Figure 14 by which there is a reconfiguration of a multifunction network device by deletion and retrieval of function modules.

Therefore, the specification provides a detailed description of “structure” that corresponds to the claimed functions, and it is clear that such structure is statutory. Accordingly, rejected Claim 56 is believed to recite statutory subject matter, and withdrawal of this rejection is respectfully requested.

Withdrawal of the § 101 rejection is respectfully requested.

#### Art-Based Rejections

Claims 1 to 4, 8, 10, 11, 13, 14, 17, 22 to 32, 35, 36, 53, 55, 57 and 59 were rejected under 35 U.S.C. § 103(a) over U.S. Patent 6,125,390 (Touboul) in view of U.S. Patent 6,546,484 (Hirai), and further in view of U.S. Patent Application Publication 2003/0033395 (Sato). Claims depending from Claim 1 were rejected further in view of U.S. Patent 5,696,701 (Burgess) or U.S. Patent 6,167,567 (Chiles).

In addition, independent Claims 54, 56, 58 and 60 were rejected under § 103(a) over Sato in view of U.S. Patent Application Publication 2001/0025312 (Obata) and further in view of Hirai.

In entering its rejection, the USPTO has provided a response to prior arguments in support of patentability. The response is found at pages 4 through 6 of the Office Action. According to the USPTO, it has considered the documentary evidence submitted by the Applicant on distributed computing systems. Curiously, however, the USPTO states that the documentary evidence is not relevant to the claims. More precisely, the USPTO states that the claims are not directed to a distributed computing system, but rather are merely a “simple client-server system”. See Office Action, page 5. The Office Action further states that a distributed computing system is characterized by the coordination of actions “only by passing messages. The sharing of resource[s] is a main motivation for constructing distribute[d] systems”. Office Action, page 4.

The Office Action contrasts the foregoing assessment with the claims, and contends that the claims do not “show coordinating the actions between MFPs or sharing of resources among the multifunction network devices or running in the MFP, a distributed software component”. Office Action, page 5.

The Applicant is not able to understand the USPTO’s rationale, and respectfully submits that it is flawed. The rejected claims explicitly refer to the sending of reconfiguration commands from one device to another device “via the network”, In addition, function modules are retrieved and sent from one device to another, again “via the network”. This functionality and structure explicitly fits into the USPTO’s definition of a

distributed system. Again, according to the USPTO, a distributed system is a system in which network computers “communicate and coordinate their actions only by passing messages”. Office Action, page 4.

Moreover, in support of the USPTO’s position, it has provided its own “documentary evidence” that is alleged to show the difference between a simple network system and a distributed system. This so-called “documentary evidence” comprises two articles from the website of [wiki.answers.com](http://wiki.answers.com), respectively entitled “What is the Difference Between Distributed Systems and Systems Connected in a Network” and “What is the Difference Between a Computer Network and a Distributed System”.

Both of these articles are not dated, and are thus not relevant to the proper inquiry, which is the understanding of those of ordinary skill in the art “at the time of the invention”.

Moreover, USPTO internal rules expressly forbid reliance on articles from a “wiki”. See, for example, the attached article from Business Week, September 4, 2006, entitled “Kicking Wiki Out Of The Patent Office”. According to the article, Commissioner John Doll is quoted as stating:

“The problem with Wikipedia is that it’s constantly changing. We’ve taken Wikipedia off our list of accepted sources of information.”

Commissioner Doll’s words were targeted specifically at Wikipedia and not at the [wiki.answers.com](http://wiki.answers.com) site relied on by the USPTO in the instant case. However,

Commissioner Doll's admissions on the unreliability of wiki's in general are applicable to this case also.

Turning to the art applied against the claims, the claims generally concern management of a multifunction network device on a network, wherein each multifunction network device includes plural function modules including a function modules for controlling a printing capability and a function module for controlling a scanning capability. In response to reconfiguration events, the function modules may be deleted, or deleted function modules may be retrieved. As a consequence, the functional capability of the multifunction network device can be changed by swapping function modules in and out of the device, such as in response to increases or decreases in demand for hardware resources of a multifunction network device.

According to one aspect set out in the claims herein, upon receipt of a function module, there is confirmation of whether the received function module is or is not authenticated. For example, as shown in connection with step S1405 shown in Figure 14 of the subject application, as part of the reconfiguration process, the multifunction network device confirms authenticity and completeness of downloaded function modules.

In entering its rejection, the USPTO maintained its position that there is no technological difference, in principle, between a local bus system within a single computer (such as that disclosed in Hirai) and a network system including plural multifunction network devices. Applicant continues to believe that such a position is technologically naive, and is therefore flawed. In fact, there are significant differences between a local bus architecture within a single computer, and network-based architecture across multiple

devices that communicate over a network, such that those of ordinary skill would not have considered it obvious to combine the two.

Applicant therefore reasserts and incorporates by reference all arguments and documentary evidence provided in the amendment dated November 18, 2008. Based on the documentary evidence of record, together with the language of the claims which specifies that there are multiple devices that communicate over a network, Applicant respectfully submits that those of ordinary skill in the art would not have considered it obvious to combine the technology from a local bus system within a single computer (such as that disclosed in Hirai) into a distributed network system that includes plural multifunction network devices.

Moreover, with respect to specific language set out in the claims, all claims refer to a function module for a printing capability and a function module for a scanning capability, deletion of such function modules as appropriate in a situation where there is an increase of demand for hardware resources, and retrieval of deleted function modules as appropriate in a situation where there is a decrease in demand for the hardware resources. In a situation where a function module has been deleted, the multifunction device operates itself without the corresponding scanning capability or without the corresponding printing capability.

On the other hand, in the case of retrieval of deleted function modules, the multifunction device operates itself with printing or scanning capabilities, corresponding to the retrieved function module. Additionally, prior to execution of the retrieved function



module, the multifunction network device confirms whether the retrieved function module is or is not authenticated.

The applied art of record is not seen to disclose or to suggest anything similar to the arrangement set out above. It is therefore respectfully submitted that the claims herein recite subject matter that would not have been obvious from any of the art applied against it, alone or in any permissible combination, and allowance of the claims is respectfully requested.

Applicant's undersigned attorney may be reached in our Costa Mesa,  
California office at (714) 540-8700. All correspondence should continue to be directed to  
our below-listed address.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael K. O'Neill", is written over a horizontal line.

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* SANDEEP NAWATHE and VAISHALI ANGAL

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Appeal 2007-3360  
Application 10/112,147<sup>1</sup>  
Technology Center 2100

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Decided:<sup>2</sup> February 9, 2009

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Before JEAN R. HOMERE, JOHN A. JEFFERY, and  
CAROLYN D. THOMAS, *Administrative Patent Judges*.

HOMERE, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> Filed on March 29, 2002. The real party in interest is Amphire Solutions, Inc.

<sup>2</sup> The two month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

## STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's non-final rejection of claims 1 through 39. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

### *Appellants' Invention*

Appellants invented a method and system for representing a normalized eXtensible Markup Language (XML) data structure as fixed sets of tables in a relational database (RDB). (Spec. 14.) As depicted in Figure 10, the schema of the RDB includes a linked list of nodes (1-4), each having XML documents. (Spec. 17-19.) Particularly, some of the parent nodes (3, 4) use a soft link in order to share a child node (7) representing an array of XML objects thereby reducing redundancy across objects in the linked list. (*Id.*)

### *Illustrative Claims*

Independent claims 1 further illustrates the invention. It reads as follows:

1. A computerized method comprising:  
inputting multiple extensible Markup Language (XML) documents;  
creating a data representation of said multiple XML documents; and  
reducing redundancy across said multiple XML documents via a fixed set of tables.

Appeal 2007-3360  
Application 10/112,147

*Prior Art Relied Upon*

The Examiner relies on the following prior art as evidence of unpatentability:

Schroeder	2002/0099735 A1	Jul. 25, 2002
Stewart	2002/0120846 A1	Aug. 29, 2002
Hurst	2002/0156912 A1	Oct. 24, 2002
Lee	2002/0169788 A1	Nov. 14, 2002
O'Neil	2003/0110150 A1	Jun. 12, 2003
Pardon	6,671,686 B2	Dec. 30, 2003
Cornelius	6,684,222 B1	Jan. 27, 2004
Brooke	6,763,343 B1	Jul. 13, 2004

*Rejection on Appeal*

The Examiner rejects the claims on appeal as follows:

1. Claim 36 stands rejected as being unpatentable under the doctrine of obviousness-type double patenting over claim 1 of Sangudi, U.S. Patent 6,925,470.
2. Claims 1, 16, and 25 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.
3. Claims 1 through 3, 6 through 8, 10, and 12 through 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee.
4. Claims 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Lee and Brooke.
5. Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Lee and Schroeder.

6. Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Lee and O'Neill.
7. Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Lee and Hurst.
8. Claim 35 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Lee and Stewart.
9. Claim 36 and 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Lee and Pardon.
10. Claim 37 and 39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Cornelius and Pardon.

A. DOUBLE PATENTING REJECTION

*Claim 36*

Appellants argue that the obviousness-type double patenting rejection of claim 36 over claim 1 of Sangudi is in error. Particularly, Appellants argue the claimed method of representing multiple normalized XML data structures as a fixed set of tables in a RDB would not have been obvious over Sangudi's method of representing an XML data structure as a fixed set of tables in a RDB. (App. Br. 36-38.) Further, Appellants argue that they have filed a terminal disclaimer with respect to the rejected claim to overcome the rejection. (*Id.* at 37.) In response, the Examiner finds that modifying Sangudi's to represent a plurality of normalized data structure would have provided the benefit of integrating data from the multiple XML

files. Consequently, the Examiner maintains the rejection until approval of the terminal disclaimer. (Ans. 10-12, 20.)

Appellants' arguments are not persuasive. Beyond merely repeating the language of the two competing claims, and stating that they are different, Appellants have not provided any argument that directly challenges the Examiner's rationale for arriving to the obviousness rejection. Further, we have not considered the terminal disclaimer since it was not timely filed. Therefore, we conclude that Appellants have not shown error in the Examiner's prima facie case of double patenting.

#### B. NON-STATUTORY SUBJECT MATTER REJECTION

##### *Claims 1, 16, and 25*

Appellants argue that claims 1, 16, and 25 are directed to statutory subject matter under the machine-or-transformation test, as well as the useful, concrete and tangible result test provided in *AT&T Corp. v. Excel Communications, Inc.* (App. Br. 30-34.) In response, the Examiner submits that the cited claims are directed to an abstract idea. Therefore, she finds them not to be directed to statutory subject matter under the cited tests. (Ans. 5, 19-20.)

##### *Issue regarding statutory subject matter*

The threshold issue before us is whether Appellants have shown that the Examiner erred in finding that method claims 1 and 15 are directed to

non-statutory subject matter under the machine-or-transformation test. We answer this inquiry in the negative.

*Principles of Law regarding statutory subject matter*

The Court of Appeals for the Federal Circuit has recently clarified the law regarding patent eligible subject matter for process claims. *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008) (en banc). The en banc court in *Bilski* held that "the machine-or-transformation test, properly applied, is the governing test for determining patent eligibility of a process under § 101." *Id.* at 956. The court in *Bilski* further held that "the 'useful, concrete and tangible result' inquiry is inadequate [to determine whether a claim is patent-eligible under § 101.]" *Id.* at 960. The court explained the machine-or-transformation test as follows:

The machine-or-transformation test is a two-branched inquiry; an applicant may show that a process claim satisfies § 101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article. *See [Gottschalk v.]Benson*, 409 U.S. [63] at 70, 93 S. Ct. 253 [(1972)]. Certain considerations are applicable to analysis under either branch. First, as illustrated by *Benson* and discussed below, the use of a specific machine or transformation of an article must impose meaningful limits on the claim's scope to impart patent-eligibility. *See Benson*, 409 U.S. at 71-72, 93 S. Ct. 253. Second, the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity. *See [Parker v.]Flook*, 437 U.S. [584] at 590, 98 S. Ct. 2522 [(1978)].

*Id.* at 961-62.



The court declined to decide under the machine implementation branch of the inquiry whether or when recitation of a computer suffices to tie a process claim to a particular machine. As to the transformation branch of the inquiry, however, the court explained that transformation of a particular article into a different state or thing "must be central to the purpose of the claimed process." *Id.* at 962. As to the meaning of "article," the court explained that chemical or physical transformation of physical objects or substances is patent-eligible under § 101. *Id.* The court also explained that transformation of data is sufficient to render a process patent-eligible if the data represents physical and tangible objects, i.e., transformation of such raw data into a particular visual depiction of a physical object on a display. *Id.* at 963. The court further noted that transformation of data is insufficient to render a process patent-eligible if the data does not specify any particular type or nature of data and does not specify how or where the data was obtained or what the data represented. *Id.* at 962 (citing *In re Abele*, 684 F.2d 902, 909 (CCPA 1982) (process claim of graphically displaying variances of data from average values is not patent-eligible) and *In re Meyer*, 688 F.2d 789, 792-93 (CCPA 1982) (process claim involving undefined "complex system" and indeterminate "factors" drawn from unspecified "testing" is not patent-eligible)).

*Analysis regarding statutory subject matter*

Independent claim 1 recites in its preamble a computerized method. The body of the claim merely recites that upon inputting XML documents, creating a data representation thereof to reduce redundancy across the documents via fixed tables. We note that the recited method, while being computerized, is not tied to a particular machine for executing the claimed steps. We find that the computerized recitation purports to a general purpose processor (Fig. 2.), as opposed to a particular computer specifically programmed for executing the steps of the claimed method. Next, while it can be argued that the creating step transforms the input XML documents into represented data (i.e. a different state), we find that the documents are not an article (i.e. physical entities). Rather, they are mere data that represent such entities. Similarly, while it can be argued that the redundancy reducing step transforms the XML documents into a smaller set of the documents, they are not an article being transformed. Therefore, under the machine-or-transformation test, the claimed method fails to recite a particular machine or an article being transformed into a different state or thing. Thus, under the cited test, the claim fails to recite a method that is directed to statutory subject matter.

Similarly, the computerized method recited in independent claim 16 is not tied to a particular machine. Further, the claimed XML tree structures being converted into a fixed representation are not an article. Thus, under

the machine-or-transformation test, the claim fails to recite a method that is directed to statutory subject matter.

Appellants' arguments that the claims are directed to statutory subject matter under the useful, concrete, and tangible result test are moot since the CAFC has cautioned us against using this test in evaluating method claims for patent eligibility. *Bilski*, 545 F.3d at 959-60. It follows that Appellants have failed to show that the Examiner erred in finding claims 1 and 16 unpatentable as being directed to non-statutory subject matter.

As to independent claim 25, Appellants argue that the recited apparatus refers to the general purpose computer depicted in Figure 2. (App. Br. 33.) Further, Appellants submit that the different means recited in the claim correspond to the different modules in the computer for performing the recited functions. (*Id.* at 12.) We find that since the claim recites a physical apparatus with physical modules for transforming a data structure into a fixed set of tables, it is not directed to an abstract idea. Therefore, Appellants have shown that the Examiner erred in finding that claim 25 is directed to an abstract idea. Thus, we will not sustain this rejection.

### C. OBVIOUSNESS REJECTIONS

Independent claim 1 recites in relevant part reducing redundancy across input XML documents via a fixed set of tables.

*Issue regarding obviousness rejection*

Appellants argue in great substance that Lee fails to teach or suggest the cited limitation. (App. Br. 25-28.) Particularly, Appellants argue that Lee discloses using an infinite number of tables in a relational database for a given document type definition (DTD), in contrast to using a fixed set of tables to reduce redundancy in a relational database, as claimed. (*Id.* at 26.) In response, the Examiner submits that Lee's disclosure of removing certain tables to reduce degree of redundancy of data teaches the claimed limitation. (Ans. 7, 21.) Therefore, the pivotal issue before us is whether Appellants have shown that the Examiner erred in concluding that one of ordinary skill in the art would have found that Lee's disclosure of removing the metadata tables to reduce redundancy of data teaches or suggests a fixed set of tables for reducing redundancy across multiple XML documents, as recited in claim 1. We answer this inquiry in the negative. We therefore will sustain the rejections for the reasons substantially articulated in the Examiner's answer. Accordingly, we adopt the Examiner's thorough and cogent reasoning, and we further expand thereupon in this opinion.

*Findings of fact regarding obviousness rejections*

The following findings of fact (FF) are supported by a preponderance of the evidence.

*Lee*

1a. Lee discloses a system for generating a relational schema for an XML document, and for automatically loading the document into a relational database. (Abstract.)

1b. As shown in Figure 1, Lee discloses an XML document (12) having a DTD (18) and XML data (16) complying thereto. (§ [0095].)

1c. The DTD has one or more content particles representative of the structure of the document data. The content particles include *one or more of* a plurality of elements, attributes, of elements, relationships between elements, and indicators. (§ [0051].)

1d. Extractor (24) extracts the DTD from the document (12) and stores its content particles into metadata tables (34). Particularly, Lee states that the DTD is stored as metadata, which is used to describe the information of the DTD associated with the XML *documents*. (§§ [0041], [0098].)

1e. As shown in Figure 1A, Lee discloses three metadata tables (90, 92, and 94) for storing three content particles extracted from the DTD of an XML document. (§ [0100].)

1f. Generator (28) uses the metadata (34) to generate a relational schema (22) for the relational database with a number of tables (20)

corresponding to the number of content particles extracted from the document (12). (¶¶ [0042], [0052], [0098].)

1g. As shown in example 1, Lee discloses using a finite number of tables as part of generating the schema for the relational database. (¶ [0193].)

1h. Loader (30) loads the XML data into the one or more tables (20) created in the relational database according to the relational schema (22). (¶¶ [0043], [0052], [0099].)

1g. Lee discloses that after loading the data from the document (12) into the relational tables, removing the metadata tables to thereby reduce the degree of redundancy of data. (¶ [0206].)

*Principles of law regarding obviousness rejections*

Appellants have the burden on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.") (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

Section 103 forbids issuance of a patent when "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains."

*KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007).

In *KSR*, the Supreme Court emphasized "the need for caution in granting a patent based on the combination of elements found in the prior art," and discussed circumstances in which a patent might be determined to be obvious. *KSR*, 127 S. Ct. at 1739 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 12 (1966)). The Court reaffirmed principles based on its precedent that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* The operative question in this "functional approach" is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.* at 1740.

The Federal Circuit recently recognized that "[a]n obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of a case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not." *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007) (citing *KSR*, 127 S. Ct. at 1739). The Federal Circuit relied in part on the fact that Leapfrog had presented no evidence that the inclusion of a reader in the combined device was "uniquely challenging or difficult for one of ordinary skill in the art" or "represented an unobvious step over the prior art." *Id.* at 1162 (citing *KSR*, 127 S. Ct. at 1741).

One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. *See In re Kahn*, 441 F.3d at 987-88; *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991); and *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). Moreover, in evaluating such references it is proper to take into account not only the specific teachings of the references but also the inferences which one skilled in the art would reasonably be expected to draw therefrom. *In re Preda*, 401 F.2d 825, 826 (CCPA 1968).

#### *Analysis regarding Obviousness Rejections*

As set forth in the Findings of Fact section, Lee discloses storing into three metadata tables content particles extracted from the DTD of a document. (FF. 1d-1e.) Further, Lee indicates that the metadata are used to describe DTD information associated with XML documents. (FF. 1d.) Lee also discloses generating a schema for a relational database having a finite and equal number of relational tables as the metadata tables. (FF. 1f-1g). Additionally, Lee discloses after loading the data from the document into the relational tables, removing the metadata tables to reduce the degree of data redundancy. (FF. 1h.) We find that the ordinarily skilled artisan would have readily recognized that Lee teaches using a finite number of metadata tables



to store the extracted content particles from the document. Similarly, the ordinarily skilled artisan would have appreciated that Lee teaches using a finite number of relational tables in the schema generated for the relational database in order to load the XML data therein. Therefore, the ordinarily skilled artisan would have found that by removing the finite set of metadata tables, Lee teaches using a finite or a fixed set of tables to reduce redundancy in data for a document.

While Lee's system specifically discloses loading data for a single XML document into the relational database, it is not necessarily so limited. In other words, the ordinarily skilled artisan would have recognized that loading multiple XML documents in a relational database to be within the purview of the prior art as evidenced by Lee's disclosure that metadata is generally known to describe information about *more than one of such documents*. (FF. 1d.) Therefore, the ordinarily skilled artisan would have found that Lee discloses prior art elements that perform their ordinary functions to predictably result in a system that (1) uses a fixed set of metadata tables to store the content particles of one or more XML documents, (2) that generates a fixed set of relational tables using the metadata tables, (3) that loads the data for the XML documents into relational tables, and (4) that subsequently removes the metadata tables to reduce the data redundancy. Additionally, since Lee's redundancy reduction technique has been used to improve the storage of one XML document in a relational database, the ordinarily skilled artisan would have recognized that

it would improve the storage of similar documents in the same way. It follows that Appellants have not shown that the Examiner erred in concluding that Lee renders independent claim 1 unpatentable.

Regarding Appellants' arguments presented at pages 54 through 178 of the Appeal Brief, we observe the following:

A. For each of claims 2, 3, 6 through 8, 10, and 12 through 34, Appellants argue that the cited claim is not unpatentable over Lee based on the same reasons for patentability advanced for claim 1 above. We have already addressed these arguments, and we do not agree with Appellants. Therefore, Appellants' arguments are not persuasive.

B. For each of claims 4, 5, 9, 11, 35, 36, and 38, Appellants contend that each of the secondary references relied upon does not cure the deficiencies of Lee as previously argued. We have found no such deficiencies in Lee for these secondary references to remedy. Therefore, Appellants' arguments are not persuasive.

C. For each of claims 2 through 36 and 39, Appellants reproduce verbatim (1) the Examiner's rejection, (2) the text upon which the Examiner relies for the rejection, and (3) the language of the claim. Additionally, Appellants make a general allegation that the cited text does not teach the language for each of these claims. Appellants are reminded that a statement that merely points out what the claim recites will not be considered as an argument for separate patentability of the claim. 37 C.F.R.

§ 41.37(c)(1)(vii). Appellants are further reminded that a general allegation

that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references does not constitute a persuasive response. 37 C.F.R. § 1.111(b). Therefore, Appellants' arguments are unpersuasive.

It follows that Appellants have not shown that the Examiner erred in rejecting claims 2 through 39 as being unpatentable over the prior art of record.

#### CONCLUSIONS OF LAW

A. Appellants have not shown that the Examiner erred in finding or concluding that:

1. Claim 36 is unpatentable under the doctrine of obviousness-type double patenting over claim 1 of Sangudi.

2. Claims 1 and 16 are unpatentable under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

3. Claims 1 through 38 are unpatentable s under 35 U.S.C. § 103(a).

B. We affirm these rejections.

C. Appellants have shown that the Examiner erred in finding that claim 25 is unpatentable under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

D. We reverse this rejection.

Appeal 2007-3360  
Application 10/112,147

## VII. DECISION

Because we have affirmed at least one ground of rejection with respect to each claim on appeal, the Examiner's decision is affirmed. *See* 37 C.F.R. § 41.50(a)(1).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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# BusinessWeek

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SEPTEMBER 4, 2006

UP FRONT

Talk Show

"Quattrone was a very big fish, but the evidence against him was not very good." -- John Fahy, a former federal prosecutor in New Jersey, on former investment banker Frank Quattrone's deal with prosecutors allowing him to avoid a third trial and return to business, as reported by Bloomberg News

## A Stock Soars On High Anxiety

Heavy demand for security technology drove American Science & Engineering (ASEI) to No. 12 on *BusinessWeek's* latest Hot Growth ranking of 100 small companies earlier this year ([BW -- June 5](#)). But on Aug. 9 the Billerica (Mass.) company announced disappointing earnings, and its stock fell 21%, to 36.30 a share.

Now AS&E's fortunes have changed again -- literally overnight. On Aug. 10, British authorities announced they had thwarted an alleged terrorist plot to blow up airplanes using explosives hidden in sports drinks. AS&E makes X-ray systems for screening cargo, vehicles, luggage, and even people. And unlike standard metal detectors used in airports, its system can spot liquids. It therefore could be used to nab anyone attempting to sneak them onto planes. The U.S. Homeland Security Dept.'s Transportation Security Administration is planning to test AS&E's people-screening systems in airports.

The company's stock flew to 47.20 on news of the terrorist plot, marking a full recovery from its earnings-related swoon. It could take several months for AS&E's top line to reflect the impact of all this. But, says Bob Postle, the company's vice-president for sales and marketing, "we've certainly had an increase in phone calls."

By Arlene Weintraub

## Dear Ben, Feel Our Pain

With housing slumping dramatically, hopes for a soft landing in the sector could be evaporating. According to Goldman Sachs (GS), housing inventories are at their highest levels in more than a decade. Just how worried are homebuilders? A few weeks ago, on the eve of the Federal Reserve Board's Aug. 8 Open Market Committee meeting, the National Association of Homebuilders sent letters to Fed Chief Ben Bernanke and each of the other members of the interest-rate-setting committee. The message: Official stats don't capture how badly housing is hurting, since those figures don't include canceled contracts, which doubled over the past year. The letter also argued that inflation is more benign than feared, because one measure, rising rents, is overweighted in the consumer price index. NAHB Chief Economist David Seiders says this is the first time since he joined the staff, in 1984, that the group has written such a letter to the Fed.

Granted, such a move seems mild compared with the actions of the early 1980s, when, to protest double-digit interest rates, a desperate NAHB mailed lumber (two-by-fours, meant to symbolize unbuilt homes) to then Fed Chief Paul Volcker. And it's not known if the NAHB's recent letter influenced the bankers in the marble temple, who chose -- for the first time in two years -- not to raise rates at its August meeting. But, says Tom Schlesinger, director of the Financial Markets Center, a Fed watchdog group, the urgent communication is "certainly a symptom" of the current anxiety.

*By Catherine Yang*

## "Shop In Thrift Stores" (Tip No. 39)

From "101 Ways to Save Money," sent by Northwest Airlines to a number of employees coping with steep pay cuts and layoffs as part of the airline's plan to emerge from Chapter 11.

- 8. Replace 100 watt bulbs with 60 watt.
- 15. Get hand-me-down clothes and toys for your kids from family and friends.
- 18. Take a shorter shower.
- 21. Make your own baby food.
- 34. Change the oil in your car yourself regularly.
- 46. Don't be shy about pulling something you like out of the trash.

## Kicking Wiki Out Of The Patent Office

Patents are enduring, conferring rights on their owners for up to 20 years. Yet until about a week ago, scores of them may have been granted based partly on information that can be altered with a keystroke from anyone surfing the Web.

On Aug. 15, the U.S. Patent & Trademark Office yanked Wikipedia from the digital toolbox its examiners use to help determine a patent application's validity. But over the past several years, examiners used the online encyclopedia, which allows users to edit entries, to inform their decisions. Wikipedia has been cited in patent decisions on everything from car parts to chip designs.

"The problem with Wikipedia is that it's constantly changing," Patents Commissioner John Doll said. "We've taken Wikipedia off our list of accepted sources of information." An agency spokesperson said inquiries from *BusinessWeek* about the use of Wikipedia led to the policy shift.

Critics say the change is long overdue. "I've been complaining about this for years," says Greg Aharonian, publisher of a patent newsletter and a longtime agency gadfly. "From a legal point of view, a Wiki citation is toilet paper." Doll says the agency used Wikipedia entries as background and not as a basis for accepting or rejecting an application.

*By Lorraine Woellert*

## Two-Minute Warning

The NFL almost fumbled this one. Less than a month before the start of the regular season on Sept. 7, it realized that its Wilson footballs, signed by retiring Commissioner Paul Tagliabue and still in production, were soon to be obsolete. It wasn't until Aug. 10, two days after Roger Goodell was named to the post, that Wilson Sporting Goods began to crank out Goodell-signed pigskins at its Ada (Ohio) plant, which will work overtime to make the 9,000 used in a season. Chris Considine, Wilson's president, says the factory lifted Goodell's signature from the contract he signed with Wilson as the NFL's COO. As for the 5,000 Tagliabue balls ready to go, the league will eat the costs (about \$250,000) and donate them to high schools.

*By Tom Lowry*

## Musings Of An Adman

[russelldavies.typepad.com/](http://russelldavies.typepad.com/)

### WHY READ IT

Advertising account planners – the folks who interpret customer research and make sure the creative types are lined up with client strategies – can learn from a master, Russell Davies, who gives "homework" assignments on this blog. For those outside advertising, this former head of planning at Nike (**NKE**) and ad shop Wieden+Kennedy has something for everyone: snapshots of ads and images that inspire him, theories about brand authenticity, and, it must be said, some really cute pictures of his son, Arthur.

*By Jena McGregor*

## "Uncle Sam Or Uncle Sucker?"

Stock up on red chili peppers and buy that granite countertop now: Chuck Grassley, Senate Finance Committee chief, wants to stop U.S. tariff breaks to India (chilies) and Brazil (a granite exporter). Grassley (R-Iowa), who blames the countries for stalling the recent Doha trade talks, says that unless the White House ends preferential treatment for the two nations, he will block renewal of the \$1 billion, 140-country program that makes some imports from developing nations duty free. "Are we Uncle Sam or Uncle Sucker?" he asks.

The U.S. Trade Representative's Office is reviewing the program, with comments due Sept. 5. It may get an earful about some unintended consequences of Grassley's plan. McCormick & Co. (**MKC**) gets 80% of its chili peppers from India, and U.S. jewelers sell India's diamond rings. Importers of auto parts from Brazil may be hit harder: It's tough to find suppliers of these highly engineered items, says the Motor & Equipment Manufacturers Assn.

*By Catherine Yang*

## The Sweet Smell Of Excess

Perhaps the fragrance industry's next scent should be called Proliferation. Trying to hang on to market share as industry growth flattens, makers are introducing scent after scent. "It's a challenging and extremely competitive time," says Karen Grant, a senior beauty analyst at market research firm NPD Group. Last year a record 124 new perfumes and colognes hit U.S. department stores. That figure, which doesn't include "mass" fragrances sold at stores like CVS (**CVS**) and Target (**TGT**), tops the number of so-called prestige scents launched during the 1970s and 1980s.

This year is expected to be even more prolific. About 200 prestige fragrances should be launched by yearend, including brands from celebrities (Derek Jeter's Driven, for instance), TV shows (*Desperate Housewives'* Forbidden Fruit), and clothing lines (Juicy Couture, from the fashion brand of the same name).

Grant says the profusion of scents started in 2002, in the post-9/11 economic downturn. Since then fragrance growth has been minimal, despite successes like Britney Spears's Curious, which racked up \$125 million in global sales in 2004 and 2005, according to Euromonitor. This year, Grant predicts, the almost \$3 billion prestige market will stay flat or rise just 1%.

The flood of products means that most scents have a shorter life cycle – a year at most, vs. about three years in the past, says Micheline Jordaan, Divisional Merchandise Manager of Fragrance for Macy's (**FD**) East.

Bernd Beetz, CEO of COTY, however, appears to shrug off such worries. He compares the turnover to fashion's fast pace: "Are there too many fragrances on the market?" he says. "That's like asking, 'Do you ever have enough clothes?'"

*By Elizabeth Woyke*

## Juicing Up The BlackBerry

Got your belt clip handy? Research In Motion (**RIMM**) is preparing to launch the latest BlackBerry, the Pearl, that should appeal to more than just harried executives. In a revamp of its business model, the Waterloo (Ont.) company and wireless carrier T-Mobile will pitch the device to regular, gadget-loving consumers starting in mid-September. About the same size as Motorola's (**MOT**) popular Razr phone, the Pearl will have a built-in digital camera, Bluetooth wireless capability, and a memory-card expansion slot to handle music and video.

Now that even soccer moms are managing their lives by mobile e-mail and text messaging, wireless carriers have been pushing RIM to create more consumer-friendly products. And they seem to be happy with RIM's effort. Cingular Wireless is expected to add the BlackBerry Pearl to its lineup this fall. Other carriers are testing it, too.

RIM is jumping into a crowded market dominated by Nokia (**NOK**), Motorola, Samsung, and others -- but it has no choice. Since January, its market share of corporate e-mail activations slipped five percentage points, to 59%, in a market that's still growing, says researcher Strategy Analytics.

There is a risk that RIM's move will turn off its most important customers, corporations that treasure the BlackBerry because it is more secure than other wireless e-mail systems. That's precisely because RIM hasn't permitted expansion slots, cameras, and other popular features.

*By Cliff Edwards and Roger O. Crockett*

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